

WHAT IS CLAIMED IS:

1. A method of determining response times of computing segments in a client-server computer environment comprising:

(a) determining a client segment compute time by:

5 (1) obtaining, at a client, an outbound time between an activation of a first client event and a detection of an outbound message outbound to a network;

(2) obtaining, at the client, an inbound time between a detection of an inbound result from the network and an arrival of the inbound result on a message queue;

10 (3) obtaining the client segment compute time by adding the outbound time and the inbound time;

(b) determining a network segment trivial response time by:

15 (1) obtaining a total trivial time for a packet between a time prior to sending a trivial request packet from the client to a server to a time after the response is received at the client from the server;

(2) obtaining the network segment trivial response time by dividing the total trivial request time by two;

20 (c) determining a network segment response time by matching a network packet with a trivial request packet based on a size of the network packet and a size of the trivial request packet, wherein the network segment response time is based on the network segment trivial response time corresponding to the matched trivial request packet;

(d) determining a server segment response time by subtracting the network segment response time and the client segment compute time from a total response time; and

(e) determining a think time segment response time based on the difference
5 between a time of the arrival of the inbound result on the message queue and the activation of a second client event.

2. The method of claim 1 wherein the determining a network segment trivial response time further comprises averaging multiple network segment trivial
10 response times.

3. The method of claim 2 wherein averages are based on a packet size.

4. The method of claim 1 wherein two or more packets are matched and
15 averaged to determine the network segment response time.

5. The method of claim 1 wherein the packets are matched by determining the trivial request packet size that most closely matches the network packet size.

20 6. The method of claim 1 wherein the network segment response time is a derived time that is interpolated by dividing the trivial request packet size by the network packet size and multiplying by the trivial request response time.

7. The method of claim 6 wherein the network segment response time is obtained by dividing the derived time by two.

8. The method of claim 1 wherein the matched packets were transmitted at approximately the same moment in time.

9. The method of claim 1 wherein a trivial request is transmitted at regular intervals based on a number of packets that are transmitted.

10. The method of claim 1 wherein the total response time comprises the time between the activation of an event and the arrival of the inbound result on the message queue.

11. A method of determining a client segment compute time comprising:
obtaining, at a client, an outbound time between an activation of a first client event and a detection of an outbound message outbound to a network;
obtaining, at the client, an inbound time between a detection of an inbound result from the network and an arrival of the inbound result on a message queue; and
obtaining the client segment compute time by adding the outbound time and the inbound time.

12. A method of determining a network segment response time comprising:

obtaining a total trivial time for a packet between a time prior to sending a trivial request packet from a client to a server to a time after a response is received at the client from the server;

obtaining a network segment trivial response time by dividing the total trivial request time by two;

matching a network packet with a trivial request packet based on a size of the network packet and a size of the trivial request packet, wherein the network segment response time is based on the network segment trivial response time corresponding to the matched trivial request packet.

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13. The method of claim 12 further comprising averaging multiple network segment trivial response times.

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14. The method of claim 13 wherein the averages are based on a packet size.

15. The method of claim 12 wherein two or more packets are matched and averaged to determine the network segment response time.

16. The method of claim 12 wherein the packets are matched by determining the trivial request packet size that most closely matches the network packet size.

17. The method of claim 12 wherein the network segment response time is a derived time that is interpolated by dividing the trivial request packet size by the network packet size and multiplying by the trivial request response time.

18. The method of claim 17 wherein the network segment response time is obtained by dividing the derived time by two.

5 19. The method of claim 12 wherein the matched packets were transmitted at approximately the same moment in time.

20. The method of claim 12 wherein a trivial request is transmitted at regular intervals based on a number of packets that are transmitted.

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21. A method of determining a server segment response time by subtracting a network segment response time and a client segment response compute time from a total response time.

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22. The method of claim 21 wherein the total response time comprises a time between an activation of an event and an arrival of an inbound result on a message queue.

23. A method of determining a think time segment response time by
20 determining a difference between a time of an arrival of an inbound result on a message queue at a client and an activation of a second client event at the client.

24. A system for determining a client segment compute time comprising:
(a) a total response time agent configured to:

wherein the network segment response time is based on the network segment trivial response time corresponding to the matched trivial request packet.

26. The system of claim 25 wherein the trivial response time agent is further
5 configured to average multiple network segment trivial response times.

27. The system of claim 26 wherein the averages are based on a packet size.

28. The system of claim 25 wherein the client is further configured to match
10 and average two or more packets to determine the network segment response time.

29. The system of claim 25 wherein the packets are matched by determining the trivial request packet size that most closely matches the network packet size.

30. The system of claim 25 wherein the network segment response time is a
15 derived time that is interpolated by dividing the trivial request packet size by the network packet size and multiplying by the trivial request response time.

31. The system of claim 30 wherein the client is further configured to obtain
20 the network segment response time by dividing the derived time by two.

32. The system of claim 25 wherein the matched packets were transmitted at approximately the same moment in time.

33. The system of claim 25 wherein the trivial response time agent is configured to transmit a trivial request at regular intervals based on a number of packets that are transmitted.

5 34. A system for determining a server segment response time comprising:
a total response time agent configured to obtain a total response time for a computer program wherein the total response time is the time between an activation of an event and an arrival of an inbound result on a message queue; and
a client configured to subtract a network segment response time and a client
10 segment response compute time from the total response time.

35. A system for determining a think time segment response time comprising:
a client; and
15 a total response time agent of the client configured to determine a difference between a time of an arrival of an inbound result on a message queue at the client and an activation of a second client event at the client.

36. An article of manufacture embodying logic for performing a method of
20 determining a client segment compute time, the method comprising:
obtaining, at a client, an outbound time between an activation of a first client event and a detection of an outbound message outbound to a network;
obtaining, at the client, an inbound time between a detection of an inbound result from the network and an arrival of the inbound result on a message queue; and

obtaining the client segment compute time by adding the outbound time and the inbound time.

37. An article of manufacture embodying logic for performing a method of
5 determining a network segment response time, the method comprising:

obtaining a total trivial time for a packet between a time prior to sending a trivial request packet from a client to a server to a time after a response is received at the client from the server;

obtaining a network segment trivial response time by dividing the total trivial
10 request time by two;

matching a network packet with a trivial request packet based on a size of the network packet and a size of the trivial request packet, wherein the network segment response time is based on the network segment trivial response time corresponding to the matched trivial request packet.

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38. The article of manufacture of claim 37, the method further comprising averaging multiple network segment trivial response times.

39. The article of manufacture of claim 38 wherein the averages are based on
20 a packet size.

40. The article of manufacture of claim 37 wherein the method matches and averages two or more packets to determine the network segment response time.

41. The article of manufacture of claim 37 wherein the method matches the packets by determining the trivial request packet size that most closely matches the network packet size.

42. The article of manufacture of claim 37 wherein the network segment response time is a derived time that the method interpolates by dividing the trivial request packet size by the network packet size and multiplying by the trivial request response time.

43. The article of manufacture of claim 42 wherein the method obtains the network segment response time by dividing the derived time by two.

44. The article of manufacture of claim 37 wherein the matched packets were transmitted at approximately the same moment in time.

45. The article of manufacture of claim 37 wherein a trivial request is transmitted at regular intervals based on a number of packets that are transmitted.

46. An article of manufacture embodying logic for performing a method of determining a server segment response time, the method comprising subtracting a network segment response time and a client segment response compute time from a total response time.

47. The method of claim 46 wherein the total response time comprises a time between an activation of an event and an arrival of an inbound result on a message queue.

5 48. An article of manufacture embodying logic for performing a method of determining a think time segment response time, the method comprising determining a difference between a time of an arrival of an inbound result on a message queue at a client and an activation of a second client event at the client.